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SUDAN GRASS (*Andropogon sorghum* var.).

Sudan grass is probably the wild original form of the cultivated sorghums. It is a tall, annual grass, growing under favorable conditions to a height of 6 to 10 feet, but when broadcasted thickly it grows only 3 to 5 feet high. The stems are fine, the largest stalks seldom larger than a lead pencil. Where the plants are scattered they stool abundantly, as many as 100 stalks coming from a single root. In general appearance Sudan grass is very much like Johnson grass, but they are entirely distinct, for Sudan grass lacks rootstocks and, therefore, never becomes troublesome as a weed. The stems are leafy, perfectly erect, and seldom lodging. The grass cures easily, making hay of excellent quality which is readily eaten by all kinds of live stock.

Sudan grass has been grown with marked success throughout the semiarid regions, maturing seed even in South Dakota. It grows equally well through the humid regions, and from Maryland southward will ordinarily yield two cuttings of hay in a season. Under irrigation it has also shown much promise, and two or more cuttings can be obtained where the season is long. Sudan grass is very drought resistant and will succeed wherever it is possible to grow any other sorghum. It is considerably earlier than the earliest Amber sorghum, and so will probably mature as far north as the Canadian line.

From the standpoint of utility Sudan grass can be compared to the millets, making a large crop of hay in a short season of warm weather. It is preferable to the millets, however, in that the hay is much superior and can be fed to all kinds of live stock without injury to them. While it is closely related to the cultivated sorghums, it has very fine stems, enabling it to be cured into hay readily and thus filling a somewhat different function on the farm.

Growing the crop.—Sudan grass may be grown either drilled, in cultivated rows, or broadcasted. If planted in cultivated rows, the rows should be as close as possible and yet permit of easy cultivation. In 30-inch rows 2 to 3 pounds of seed per acre is ample, and under conditions of very low rainfall this method is recommended. Under humid conditions, 18-inch rows are preferable and 5 pounds of seed per acre are sufficient. For drilling or broadcasting 15 to 25 pounds of seed per acre, depending on rainfall, should be used. The seed should not be sown until the ground is warm, that is, about the time for planting corn. Some experiments indicate that Sudan grass may be seeded considerably earlier, but further experiments are needed before this can be stated definitely. The young plants will withstand slight frosts without injury.

Harvesting the crop.—The hay should be cut as soon as the grass is fully headed, and early cutting is especially advisable where two or more cuttings per season are expected. The grass can be cut with a mower, but more conveniently with a binder, especially in dry regions, as the hay cures very readily in bundles.

Seed for future use.—As Sudan grass was first introduced into this country in 1909, the seed is not yet abundant, and every farmer is advised to save at least enough seed for his own future use. The grass yields a heavy crop of seed, especially in cultivated rows. At the Arlington Experimental Farm, Va., a yield of 12.8 bushels per acre was obtained when planted in 18-inch rows, while but 3.7 bushels were secured from broadcasted plants. At Chillicothe, Tex., under farm conditions a yield of 356 pounds was secured from 36-inch rows, and on another farm 642 pounds from 42-inch rows. The seed weighs about 32 pounds per bushel.

If the seed is grown for commercial purposes, it is highly important that it be grown on land not infested with Johnson grass, as the seeds of the two are distinguishable only with difficulty. This precaution is especially necessary in regions where Johnson grass is abundant, and in such localities it is recommended that farmers grow Sudan grass for seed only in cultivated rows, taking great care to hoe out any Johnson grass that may appear in the field.

Sudan grass crosses very readily with all of the cultivated varieties of sorghum, so that when it is grown near any such variety more or less numerous hybrid plants will appear in the progeny. These hybrids do no harm in fields intended for hay, but where a crop is to be harvested for seed the hybrid plants should be rogued out. This should be done preferably as soon as the hybrids appear in bloom, so as to prevent further crossing in the field, but in any event it should be done before the Sudan grass seed is harvested.

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